

DETAILED ACTION

Response to Arguments

1. The objection against the priority claim in the previous action dated 28 September 2007 is withdrawn and acknowledged.
2. The objections to the specification and claims have been met and are now withdrawn.
3. Applicant's arguments, see pages 8-10, filed 28 December 2007, with respect to the rejection(s) of claim(s) 1, 2, 4 and 5 under 102(b) in view of Medvedev et al. (US 5,575,557); claims 6 and 7 under 102(b) in view of Sorg (US 6,746,295); and claim 3 under 103(a) in view of Medvedev and Isokawa (US 7,098,485) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Parkyn, Jr. et al. (US 6,560,038).

Specification

4. The substitute specification filed 28 December 2007 has been entered.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claim 8 is rejected under 35 U.S.C. 102(e) as being anticipated by Parkyn, Jr. et al. (US 6,560,038).

In regard to claim 8, Parkyn discloses an indicator lamp comprising:

a light-emitting element [106]; and

a light-emitting element lens [102], wherein said light-emitting element lens includes a lens body having a light-emitting element mounting cavity [20c] formed at a rear of said lens body [figure 4], said light-emitting element being mounted in said light-emitting element mounting cavity, said lens body having an inverted conically shaped peripheral surface for fully reflecting and forwardly redirecting light emitted from said light-emitting element [figure 4], said peripheral surface having three sloped sections [102a, 102b, 103], each of said sloped sections being sloped relative to an axis of said light-emitting element lens at an angle different from that of the other sloped sections so as to define circumferential corners at points of discontinuity between adjacent ones of said three sloped sections [figures 4 and 5], wherein said circumferential corners are arranged so as to scatter light emitted from said light-emitting element forwardly to provide concentric emission light fluxes as viewed from a side of said front surface of said light-emitting element lens [this limitation is considered functional language and is not given patentable weight; however, to assist in prosecution, if the limitations were to be recited in a positive manner, Parkyn meets the limitations because all the

structural limitations are met and since it appears the corners between the different sloped sections scatter light based on their shape alone].

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 9-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Parkyn, Jr. et al. (US 6,560,038).

In regard to claim 9, Parkyn discloses the claimed invention as indicated above. However, Parkyn does not disclose a convex lens portion projecting outwardly from a center of said front surface of said light-emitting element lens. A convex lens portion allows for the additional focusing of the light source. Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to apply the convex lens portion to improve the light-emitting lens of Parkyn for the predictable result of a focused light emitting beam. *KSR International Co. v. Teleflex Inc.*, 82 USPQ2d 1385 (2007).

Regarding claim 10, Parkyn discloses the claimed invention as modified above; however, Parkyn does not disclose the convex lens portion having a diameter less than that of said front surface of said light emitting lens. A person of ordinary skill in the art, upon reading the reference, would also have recognized the desirability of improving the lighting system for providing a light beam having a concentrated central beam and a wider less-concentrated beam. It would have been obvious to one of ordinary skill in

the art at the time of the invention to try a convex lens portion having a diameter less than that of the lens' front surface in an attempt to improve the light distribution of Parkyn, as a person with ordinary skill has good reason to pursue the known options within his or her technical grasp. One would have been motivated to do so because a light-emitting lens element having a central convex lens portion with a diameter less than the front surface of the light emitting lens as claimed has the properties predicted by the prior art. *KSR International Co. v. Teleflex Inc.*, 82 USPQ2d 1385 (2007).

Regarding claim 12, Parkyn discloses an indicator lamp comprising:

- a light-emitting element [106]; and

- a lens body [102] having a diameter which increases as distance from said light-emitting element increases in a forward direction [figure 4], said light-emitting element being disposed at a rear of said lens body [figure 4] and emitting light to be fully reflected by a peripheral surface of said lens body and to proceed forwardly thereof [figure 4], said peripheral surface having three sloped sections [102a, 102b, 103], each of said sloped sections being sloped relative to an axis of said lens body at an angle different from that of the other sloped sections so as to define circumferential corners at points of discontinuity between adjacent ones of said three sloped sections each of said sloped sections being sloped relative to an axis of said light-emitting element lens at an angle different from that of the other sloped sections so as to define circumferential corners at points of discontinuity between adjacent ones of said three

sloped sections [figures 4 and 5], light emitted from said light-emitting element so as to be directed toward a peripheral surface of said cavity being incident on said lens body at angles less than a full reflection angle corresponding to a refractive index of said lens body, passing through said lens body, and being incident on the peripheral surface of said lens body to be fully reflected and proceed forwardly of said lens body [figure 4], light emitted from said light-emitting element so as to be directed toward a front surface of said cavity being incident on said lens body at angles less than said full reflection angle and passing through said lens body to directly proceed forwardly of said lens body [figure 4].

However, Parkyn does not disclose said lens body having a substantially cylindrical cavity formed at the rear of said lens body so as to accommodate said light-emitting element. One of ordinary skill in the art would have been led to the recited cylindrical cavity through routine experimentation and optimization. Applicant has not disclosed that the shape is for a particular unobvious purpose, produce an unexpected result, or are otherwise critical, and it appears prima facie that the process would possess utility using another shape. Indeed, it has been held that mere dimensional limitations are prima facie obvious absent a disclosure that the limitations are for a particular unobvious purpose, produce an unexpected result, or are otherwise critical. See, for example, *In re Rose*, 220 F.2d 459, 105 USPQ 237 (CCPA 1955); *In re Rinehart*, 531 F.2d 1048, 189 USPQ 143 (CCPA 1976); *Gardner v. TEC Systems, Inc.*, 725 F.2d 1338, 220 USPQ 777 (Fed. Cir. 1984), cert. denied, 469 U.S. 830, 225 USPQ 232

(1984); *In re Dailey*, 357 F.2d 669, 149 USPQ 47 (CCPA 1966). See also MPEP 2144.04(IV)(B). One would have been motivated to do so to achieve a desired light output.

Regarding claim 13, Parkyn discloses the claimed invention as indicated above. However, Parkyn does not disclose a convex lens portion projecting outwardly from a center of said front surface of said light-emitting element lens, light emitted from said light-emitting element so as to be directed toward the front surface of said cavity being incident on said lens body at angles less than the full reflection angle of said lens body, passing through said lens body and being converged by said convex lens portion to proceed forwardly of said lens body, light emitted from said light-emitting element so as to be directed toward the peripheral surface of said cavity being incident on said lens body at angles less than the full reflection angle of said lens body to be fully reflected and proceed forwardly from said fiat surface portion.. A convex lens portion allows for the additional focusing of the light source. Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to apply the convex lens portion in improve the light-emitting lens of Parkyn for the predictable result of a focused light emitting beam. *KSR International Co. v. Teleflex Inc.*, 82 USPQ2d 1385 (2007).

In regard to claim 14, Parkyn discloses an indicator lamp comprising:

a light-emitting element [106];

a lens body [102] having a cavity [20c] extending from a rear of said lens body [figure 4], extending from a rear of said lens body a front surface [20c] of said cavity being convex and projecting toward a front surface of

said lens body [figure 4], said light-emitting element [106] being arranged with said cavity [figure 4]; and

a full reflection lens [102] disposed atop said light-emitting element within said cavity [figure 4], said light-emitting element emitting light to be reflected by said full reflection lens and proceed forwardly of said full reflection lens [figure 4].

However, Parkyn does not disclose said lens body having a substantially cylindrical cavity formed at the rear of said lens body so as to accommodate said light-emitting element. One of ordinary skill in the art would have been led to the recited cylindrical cavity through routine experimentation and optimization. Applicant has not disclosed that the shape is for a particular unobvious purpose, produce an unexpected result, or are otherwise critical, and it appears prima facie that the process would possess utility using another shape. Indeed, it has been held that mere dimensional limitations are prima facie obvious absent a disclosure that the limitations are for a particular unobvious purpose, produce an unexpected result, or are otherwise critical. See, for example, *In re Rose*, 220 F.2d 459, 105 USPQ 237 (CCPA 1955); *In re Rinehart*, 531 F.2d 1048, 189 USPQ 143 (CCPA 1976); *Gardner v. TEC Systems, Inc.*, 725 F.2d 1338, 220 USPQ 777 (Fed. Cir. 1984), cert. denied, 469 U.S. 830, 225 USPQ 232 (1984); *In re Dailey*, 357 F.2d 669, 149 USPQ 47 (CCPA 1966). See also MPEP 2144.04(IV)(B). One would have been motivated to do so to achieve a desired light output. Further more, Parkyn does not disclose said full reflection lens including a convex lens portion being disposed atop said light-emitting element, said convex lens

Art Unit: 2885

portion being formed by filling a transparent polymer material into a frame disposed so as to surround said light-emitting element from above said frame so as to be raised in a convex shape. A convex lens portion allows for the additional focusing of the light source. Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to apply the convex lens portion in improve the light-emitting lens of Parkyn for the predictable result of a focused light emitting beam. *KSR International Co. v. Teleflex Inc.*, 82 USPQ2d 1385 (2007). It is well-known in the art to form a convex lens portion by molding or filling a transparent polymer material into a frame disposed so as to surround said light-emitting element from above said frame so as to be raised in a convex shape.

In regard to claim 15, Parkyn discloses the claimed invention except for a frame of transparent material. It would have been obvious to one of ordinary skill in the art at the time of the invention to use a transparent material to form the frame, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use. *In re Leshin*, 125 USPQ 416. One would be motivated to do so because it is well-known in the art to use transparent materials in the manufacturing of light out put devices as transparency allows for light transmission.

9. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Parkyn, Jr. et al. (US 6,560,038) as applied to claim 8 above, and further in view of Isokawa (US 7,098,485).

In regard to claim 11, Parkyn discloses the claimed invention as indicated above. However, Parkyn does not disclose a convex lens portion projecting outwardly from a center of said front surface of said light-emitting element lens, and wherein said lens body has an annular ridge of a semi-circular sectional profile projecting outwardly from said front surface of said light-emitting element lens so as to surround said convex lens portion. A person of ordinary skill in the art, upon reading the reference, would also have recognized the desirability of improving the directness of the beam for spot illumination. Isokawa teaches a convex lens portion projecting outwardly [31] that additionally has semi-circular ridges around a central convex region would direct all light emitted by the light emitting diode in a path parallel to the optical axis of the device [figure 5]. Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to try the convex lens portion surrounded by semicircular ridges of Isokawa in an attempt to improve the concentrations of the beam of the device of Parkyn, as a person with ordinary skill has good reason to pursue the known options within his or her technical grasp. In turn, because light-emitting devices as claimed have the properties predicted by the prior art, it would have been obvious to make a light emitting device having a central convex region surrounded by semi-circular ridges. *KSR International Co. v. Teleflex Inc.*, 82 USPQ2d 1385 (2007).

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following are cited as having a lens body with at least three different sloped portions:

- Parkyn, Jr. et al. (US 5,926,320)
- Gasquet et al. (US 6,755,556)
- Aynié et al. (US 6,953,271)
- Chaves et al. (US 7,329,029)
- Sugimoto et al. (US 2004/0190304)

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **LEAH S. LOVELL** whose telephone number is (571)272-2719. The examiner can normally be reached on Monday through Friday 8 a.m. until 4:30 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jong-Suk (James) Lee can be reached on (571) 272-7044. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Leah Lovell/
Examiner
11 April 2008

/Y M. Lee/
Primary Examiner, Art Unit 2885